Conference on Disarmament

26 May 2014

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Note verbale dated 20 May 2014 from the Delegation of the United States of America to the Conference on Disarmament addressed to the Acting Secretary-General of the Conference transmitting the report of the United States of America to the Preparatory Committee for the 2015 Review Conference of the Parties to the Treaty on the Non-Proliferation of Nuclear Weapons[1]

The Delegation of the United States of America to the Conference on Disarmament presents its compliments to Acting Secretary-General of the Conference on Disarmament Michael Moeller and has the honour of transmitting to the Secretariat the text of the Report of the United States of America to the 2014 Nuclear Non-Proliferation Treaty Preparatory Committee Pursuant to actions 5, 20, 21 of the 2010 Nuclear Non-Proliferation Treaty Review Conference Final Document. The delegation of the United States would appreciate the Secretariat's assistance in issuing and circulating this report as an official document of the Conference on Disarmament.

[1] Previously issued as document of the Preparatory Committee for the 2015 Review Conference of the Parties to the Treaty on the Non-Proliferation of Nuclear Weapons under symbol NPT/CONF.2015/PC.III/16 dated 1 May 2014.

Report submitted by the United States of America pursuant to actions 5, 20 and 21 of the Final Document of the 2010 Review Conference of the Parties to the Treaty on the Non-Proliferation of Nuclear Weapons

1. As provided in the Final Document of the 2010 Review Conference of the Parties to the Treaty on the Non-Proliferation of Nuclear Weapons (NPT/CONF.2010/50 (Vol. I)), the Governments of the five nuclear-weapon States, or "P5", are called upon to implement action 5 of the action plan to "(f)urther enhance transparency and increase mutual confidence", and to report their action 5 and other undertakings to the Preparatory Committee in 2014 under a common framework, consistent with actions 20 and 21. Action 21 states: "As a confidence-building measure, all the nuclear-weapon States are encouraged to agree as soon as possible on a standard reporting form and to determine appropriate reporting intervals for the purpose of voluntarily providing standard information without prejudice to national security". The framework we use for our national reports includes common categories of topics under which relevant information is reported, and it addresses all three pillars of the Treaty: disarmament, non-proliferation and peaceful uses of nuclear energy. We encourage all States parties, consistent with action 20, to make similar reports.

I. Reporting on national measures relating to disarmament

A. Nuclear security policies, doctrine and activities associated with nuclear weapons

1. Nuclear policy

2. United States policy is to achieve the peace and security of a world without nuclear weapons, in line with our commitments under the Non-Proliferation Treaty. We are committed to pursuing a step-by-step approach to nuclear disarmament, building on negotiated agreements and cooperative activities, so that we can continue to move beyond cold war nuclear postures.

3. The United States completed a new Nuclear Posture Review in 2010 that lays out our strategy for reducing the number and role of nuclear weapons in our defence posture. The new strategy makes clear the following.

- The fundamental role of United States nuclear weapons remains to deter nuclear attack on the United States and its allies and partners
- The United States would only consider the use of nuclear weapons in extreme circumstances to defend the vital interests of the United States or its allies and partners
- It is of global interest that the nearly 70-year record of non-use of nuclear weapons be extended forever
- United States policy is to maintain a credible deterrent with the lowest possible number of nuclear weapons, consistent with our current and future security requirements
- Nuclear plans must be consistent with the fundamental principles of the law of armed conflict and will apply the principles of distinction and proportionality and will not intentionally target civilian populations and civilian objects

- We are working to establish conditions in which the United States can safely adopt a policy of making deterrence of nuclear attack the sole purpose of United States nuclear weapons and continuing to strengthen conventional capabilities and missile defences as part of our broader efforts to reduce the role of nuclear weapons

4. Underscoring the security benefits of adhering to and fully complying with the Non-Proliferation Treaty, the United States strengthened its long-standing "negative security assurance" by declaring that the United States will not use or threaten to use nuclear weapons against non-nuclear-weapon States that are party to the Treaty and in compliance with their nuclear non-proliferation obligations.

5. The United States also made clear its readiness to provide negative security assurances within a legal framework through support for relevant protocols to the existing five nuclear-weapon-free zone treaties.

2. Changes to nuclear force posture and alert posture

6. The new United States nuclear strategy outlined at the Nuclear Posture Review builds on the significant reductions in our nuclear force posture taken since the end of the cold war and aims to further limit the potential for accidental launch by enhancing the safety, security and surety of the United States arsenal, while also maximizing the decision time available to the President in the event of a crisis.

7. Actions and practices affecting the posture of United States nuclear forces include the following:

- Reconfiguring all deployed intercontinental ballistic missiles so that each missile will carry a single nuclear warhead (whereby all multiple, independently targetable re-entry vehicles but one are removed); reducing the concentration of deployed warheads increases stability by lowering possible incentives for others to launch a nuclear first strike
- Continuing the practice of "open-ocean targeting" of all deployed intercontinental ballistic missiles and submarine launched ballistic missiles, such that in the extremely unlikely event of an accidental launch, the missile would land in the open ocean
- Continuing the practice of keeping all nuclear-capable bombers and dual-capable aircraft off of day-to-day alert
- Emphasizing the goal of maximized decision time for the President in the event of a crisis, including by making new investments in United States command and control systems
- Directing the Defense Department to examine options to reduce the role of launch under attack in United States nuclear planning, recognizing that the potential for a surprise, disarming nuclear attack is exceedingly remote

B. Nuclear weapons, nuclear arms control (including nuclear disarmament) and verification

1. Nuclear weapons reductions

8. The United States continues a decades-long, step-by-step effort to reduce and eventually eliminate nuclear weapons. We have reduced our nuclear weapons

stockpile by approximately 85 per cent since its cold war peak, or by about 82 per cent since 1970 when the Non-Proliferation Treaty entered into force.

9. A major step along this path is the Treaty between the United States and the Russian Federation on Measures for the Further Reduction and Limitation of Strategic Offensive Arms (New START Treaty) which, when fully implemented by 2018, will cap strategic warheads deployed by the United States and the Russian Federation at 1,550, the lowest levels of these weapons since the late 1950s.

10. On 8 April 2014, the United States announced the future composition of the United States nuclear force structure in order to comply with the limits of the Treaty by 2018. The updated strategic force structure will require reductions in all three legs of the United States nuclear triad, and will result in no more than 1,550 warheads deployed on:

- 400 deployed intercontinental ballistic missiles, with 50 intercontinental ballistic missile launchers put in a non-deployed status by removing the missiles from these silos
- 240 deployed submarine launched ballistic missiles on 14 strategic ballistic missile nuclear submarines, with four launch tubes on each submarine rendered incapable of launching a ballistic missile, thereby removing 56 launch tubes from accountability under the Treaty
- 60 deployed nuclear-capable bombers, with 30 B-52 heavy bombers converted to a conventional-only role

11. As President Obama stated in Berlin in 2013, the United States is prepared to negotiate further nuclear reductions with the Russian Federation of up to one third in the deployed strategic warhead levels established in the New START Treaty.

12. The United States remains open to seeking negotiated reductions with the Russian Federation in all categories of nuclear weapons, including strategic and non-strategic nuclear weapons.

13. These actions extend the legacy of United States leadership on nuclear arms control and disarmament, which includes many other signal achievements, including:

- The 1987 Intermediate-Range Nuclear Forces Treaty, which eliminated all United States and Soviet Union ground-launched missiles with a maximum range between 500 and 5,500 km and permanently prohibited the parties from possessing or developing those systems. The Treaty is of unlimited duration.
- All United States ground-launched ballistic missiles and United States ground-launched cruise missiles were eliminated by 1991, to include 403 Pershing IA and IB and Pershing II ground-launched ballistic missiles and 443 Tomahawk ground-launched cruise missiles, a total of 846 missiles.
- The 1991 Strategic Arms Reduction Treaty (START), the most sweeping and complex arms control agreement negotiated in history, which limited strategic nuclear warheads attributed to the United States and the Russian Federation to 6,000 on no more than 1,600 deployed intercontinental ballistic missiles, submarine launched ballistic missiles, and heavy bombers. Under START, between September 1990 and July 2009 the United States reduced the number of deployed strategic launchers (intercontinental ballistic missiles, submarine launched ballistic missiles, their associated launchers, and deployed heavy bombers in its arsenal) from 2,246 to 1,188, a 47 per cent reduction, and the

number of nuclear warheads attributed to these launchers from 10,563 to 5,916, a 44 per cent reduction.

- The 2002 Strategic Offensive Reductions Treaty (or "Moscow Treaty") limited the United States and the Russian Federation to no more than 1,700-2,220 operationally deployed strategic nuclear warheads by 2012. The aggregate number of operationally deployed strategic nuclear warheads was 1,944 as of February 2011, when the Treaty was superseded by the New START Treaty.

- National measures. In addition to treaty-based reductions, the United States made dramatic and deep cuts to its cold war arsenal, including through the 1991 and 1992 "Presidential Nuclear Initiatives", which eliminated approximately 3,000 United States nuclear weapons and resulted in an approximately 90 per cent reduction in all United States tactical nuclear weapons. These national measures included the following:

  - Elimination of all 450 Minuteman II intercontinental ballistic missile silo launchers and all 50 Peacekeeper intercontinental ballistic missile silo launchers, as well as 50 Minuteman III silo launchers;

  - Removal of four ballistic missile submarines from strategic (nuclear) service and reducing the number of warheads on each of the remaining deployed submarines;

  - Retiring all FB-111A bombers, eliminating all B-52G heavy bombers, and converting all B-1B heavy bombers to conventional-only capability;

  - Withdrawal of all land-based tactical nuclear weapons with a range less than 300 miles;

  - Elimination of all United States nuclear artillery shells and warheads for short-range ballistic missiles;

  - Removal of tactical nuclear weapons from all naval combatant vessels;

  - Removal of all nuclear command and control aircraft from constant airborne alert;

  - Retiring the AGM-129 Advanced Cruise Missile and the AGM-69 Short-Range Attack Missile (both air-to-ground missiles).

2. United States nuclear stockpile transparency

14. At the May 2010 Review Conference, the United States released for the first time its nuclear stockpile totals, detailing annual stockpile levels from 1962 to 2009 and annual totals of nuclear weapons dismantled from 1994 to 2009.The stockpile reported as of 2009 was 5,113 warheads, with a total of 8,748 weapons dismantled between 1994 and 2009.

15. The United States is releasing an update of those numbers through the end of fiscal year 2013. As of 30 September 2013, the total stockpile of nuclear warheads was 4,804, reflecting a further reduction of 309 warheads compared with the total stockpile as of 30 September 2009. Further, an additional 1,204 nuclear warheads have been dismantled since 30 September 2009.These actions have resulted in a reduction of about 85 per cent in total nuclear weapons in our stockpile since the height of the cold war, or a reduction of about 82 per cent since 1970 when the Non-Proliferation Treaty entered into force.

16. The United States has retired many thousands of nuclear warheads. Retired warheads have been removed from their delivery platform, are not functional, and

are in the queue for dismantlement. Since 1992, the United States has retired and dismantled 12 nuclear weapon types, including the most recent types, the W79, W62, W56 and the B53. The last W80-0 warhead for the Tomahawk Land Attack Missile-Navy was retired from service and has been dismantled.

17. It is United States policy not to develop new nuclear weapons. Life extension programmes for remaining nuclear warheads will not support new military missions or provide for new military capabilities for nuclear weapons.

3. Fissile material reductions and facility consolidation

18. In addition to information on the nuclear weapon stockpile, the United States has made public the total amounts of United States plutonium and highly enriched uranium produced by the weapons programme for military or non-military use. In 2009, the United States reported that the plutonium inventory was 95.4 metric tons. In 1994 and 2007, the United States declared 61.5 metric tons of plutonium as excess and removed them from further use as fissile material for use in nuclear warheads.

19. Under the United States-Russian Federation Plutonium Management and Disposition Agreement, the United States and the Russian Federation each will dispose of no less than 34 metric tons of plutonium declared excess to defence needs. The United States remains committed to an International Atomic Energy Agency (IAEA) role in verification of both sides' disposition programmes under the Agreement.

20. The total United States highly enriched uranium inventory as of 2004 was 686.6 metric tons. In declarations in 1994 and 2005, the United States declared that a total of 374 metric tons of highly enriched uranium would be removed from further use as fissile material in nuclear warheads. To date, the United States has downblended a total of more than 140 metric tons of highly enriched uranium from these declarations, enough material for more than 5,500 nuclear weapons. The total amount of downblended highly enriched uranium will continue to increase as the current downblending effort for additional material progresses.

21. In addition, 7.4 metric tons of this highly enriched uranium was downblended to low-enriched uranium in facilities eligible for safeguards, for use in the American Assured Fuel Supply, a United States swords-to-ploughshares initiative that provides back-up low-enriched uranium fuel assurances to nuclear power users that face a disruption in supply. In total, 46.6 metric tons of this highly enriched uranium was downblended under IAEA safeguards. The cost for safeguards was covered in full by the United States.

22. Up to 160 metric tons of the excess highly enriched uranium will be provided for use in naval ship power propulsion, postponing the need for production of new highly enriched uranium or construction of a new highly enriched uranium enrichment facility for many decades.

23. In one of the more important nuclear non-proliferation achievements of the post-cold war period, the United States and the Russian Federation recently completed the final shipment of low-enriched uranium under the 1993 United States-Russian Federation Highly Enriched Uranium Purchase Agreement, under which 500 metric tons of Russian Federation weapons-origin highly enriched uranium was converted to low-enriched uranium for use in American nuclear power plants. This Agreement eliminated the equivalent of approximately 20,000 nuclear warheads worth of Russian Federation weapons-origin highly enriched uranium, with the resulting downblended low-enriched uranium used to produce half of all

nuclear energy generated annually in the United States over the past 15 years, or about 10 per cent of all electricity generated in the United States during that time period.

24. During the 20-year Agreement, both countries exercised reciprocal transparency monitoring to ensure that all highly enriched uranium processed in the Russia Federation was of weapons origin and that all low-enriched uranium produced from that material was used exclusively for peaceful purposes.

25. In parallel to reductions in the United States stockpile, the United States has consolidated the number of sites needed to maintain it. Today's current nuclear complex is smaller and geared to support not only our enduring nuclear weapons stockpile through science-based stewardship, but also our capability to address proliferation, terrorism and other global threats.

26. In 1980, the nuclear complex was made up of 14 sites. Today, it consists of 8, with a workforce approximately one third of its size at the end of the cold war. Key actions to reduce the complex include the following:

- Cessation of production of plutonium for weapons in 1987 and closure of all plutonium production reactors at the Hanford Site in Richland, Washington, and at the Savannah River Site in Aiken, South Carolina
- Closure and decommissioning of the Hanford Site nuclear reprocessing plants
- Cessation of production of highly enriched uranium for weapons in 1964 and shutdown of the K-25 enrichment complex in Oak Ridge, Tennessee
- Conversion of enrichment plants in Portsmouth, Ohio, and Paducah, Kentucky, to support civil nuclear fuel production only
- Closure and decommissioning of the Feed Materials Production Center at Fernald, Ohio, the Rocky Flats plutonium pit production facility in Colorado, and the Mound and Pinellas plants for nuclear weapons components in Miamisburg, Ohio, and Pinellas, Florida
- Removal of category I/II special nuclear materials, quantities large enough to construct nuclear devices, from Sandia National Laboratories, the Lawrence Livermore National Laboratory, and Technical Areas 3 and 18 at Los Alamos National Laboratory, as well as consolidation of category I/II material into TA-55 at Los Alamos
- Consolidation of highly enriched uranium storage into the newly constructed highly enriched uranium Materials Facility at Y-12 in Oak Ridge, Tennessee
- Consolidation of non-pit plutonium into the K-Area Materials Storage facility at the Savannah River Site

27. The United States has not conducted a nuclear explosive test since 1992. The former Nevada Test Site has been renamed the Nevada National Security Site and today supports an expanded mission to include stockpile stewardship, but also a range of activities supporting research and development of technologies to support non-proliferation goals.

28. Looking forward, the new United States nuclear strategy anticipates shifting from retaining large numbers of non-deployed nuclear warheads towards a more responsive infrastructure over time. We are investing in a more modern physical infrastructure that would allow for further reductions in total nuclear forces.

4. Multilateral arms control

29. The United States reaffirms its commitment to negotiate a treaty banning the production of fissile material for use in nuclear weapons or other nuclear explosive devices, also known as the fissile material cut-off treaty. As an interim step, the United States supports, and is actively participating in, the Group of Governmental Experts that will make recommendations on possible aspects that could contribute to a fissile material cut-off treaty. We are hopeful that the two-year mandate of the Group, which first convened in Geneva in late March, will serve to motivate and revitalize work on a fissile material cut-off treaty and progress within the Conference on Disarmament.

30. In addition we have established recurring consultations on a fissile material cut-off treaty with the P5 and other relevant partners.

31. The Comprehensive Nuclear-Test-Ban Treaty is in the security interest of every nation, and the United States remains committed to ratifying the Treaty and bringing it into force.

32. The United States makes the largest annual financial contribution to the Preparatory Commission of the Comprehensive Nuclear-Test-Ban Treaty Organization, paying more than 22 per cent of the Commission's annual budget. With United States assistance, the Treaty's International Monitoring System is now 86 per cent complete.

33. The United States is helping to develop the on-site inspection element of the Comprehensive Nuclear-Test-Ban Treaty verification regime. Through significant United States voluntary contributions-in-kind of equipment, expertise and research, the United States is heavily involved in the preparations for the largest-ever on-site inspection integrated field exercise, to be conducted in Jordan in December 2014.

34. In 2013, the United States, along with the rest of the P5, convened a series of meetings of technical experts to identify areas for future P5 collaboration on issues related to the Comprehensive Nuclear-Test-Ban Treaty.

5. Verification, including research and development

35. Effective verification is an essential condition for non-proliferation, arms control, and achieving a world without nuclear weapons. Verification methods and technologies capable of detecting violations and monitoring compliance must be in place as States move step by step towards nuclear disarmament.

36. Transparency through information sharing and confidence-building measures contribute to stability and security by enhancing predictability and building trust and confidence.

37. Verification under the New START Treaty increases stability and predictability between the world's largest nuclear powers. The Treaty's robust and extensive verification provisions provide mutual confidence that both sides are living up to their obligations. The accurate and timely information shared between the United States and the Russian Federation on each side's respective nuclear forces diminishes the risks of misunderstanding and misperception. The Treaty's verification regime includes the following:

- 18 short-notice on-site inspections of both deployed and non-deployed nuclear intercontinental ballistic missiles, submarine launched ballistic missiles and heavy bombers each year for each party as well as required exhibitions and demonstrations

- On-site inspections of re-entry vehicles that are more intrusive than those conducted under the previous START agreement, allowing each party to confirm the actual number of deployed warheads on intercontinental ballistic missiles and submarine launched ballistic missiles or nuclear armaments on heavy bombers
- National technical means to improve verification effectiveness
- An extensive system of notifications to inform the other party when changes occur to the Treaty's database, such as movements, flight tests and deployments of Treaty-accountable items. As of April 2014, the United States and the Russian Federation have exchanged over 6,200 such notifications through their respective Nuclear Risk Reduction Centers in Washington, D.C. and Moscow.

38. To date, more than 115 on-site inspections have been conducted by the United States and the Russian Federation under the New START Treaty. Treaty on-site inspections and other verification measures enable each side to maintain confidence in the validity of data exchanged by the United States and the Russian Federation.

39. Looking to the future, the United States is supporting a range of research and development activities to expand work on verification technologies. We are making multimillion dollar investments each year to advance these capabilities.

40. Current United States research initiatives include capabilities to enable monitoring of warheads, including non-deployed warheads in storage, as well as capabilities to distinguish warheads by type. These efforts include the following:

- A comprehensive United States nuclear warhead modelling and measurement campaign to establish a comprehensive nuclear warhead and component signature set. The resulting data will support assessment of sensitive information that could be revealed as a result of future treaty verification activities, and will further guide future research and development in the areas of radiation detection and information protection.
- Field demonstrations and evaluations of nuclear warhead lifecycle "end-to-end" monitoring capabilities, to include warhead storage and transportation monitoring demonstrations and evaluations at the Nevada National Security Site. Technologies are being developed and assessed to provide assurance to a potential monitoring party that nuclear warheads are accounted for and tracked throughout their lifecycle, including during long-term storage and dismantlement.

41. The United States is also pursuing research and development to enhance current or future arms control treaties. Those efforts include the following:

- Technologies to support the Comprehensive Nuclear-Test-Ban Treaty, including completion of field experiments and demonstrations to further our understanding of underground nuclear event signatures and seismic source term generation. Activities include evaluating technologies for effectiveness and intrusiveness and optimizing the implementation of visual observation, seismic and acoustic sensing, multispectral imaging and radionuclide transport and measurement.
- Development of monitoring capabilities for defined fissile material production facilities and for possible inspections at sensitive United States sites.

42. Together with the Russian Federation, we completed an extensive body of monitoring and verification research during the 1990s and 2000s that has informed ongoing and potential future areas of research and development.

43. Under a recent research and development agreement between the United States and the Russian Federation, we are prepared to pursue work with the Russian Federation on nuclear monitoring and verification research, building on previous work.

44. With the United Kingdom of Great Britain and Northern Ireland, we are in our second decade of active partnership in monitoring and verification research. Our joint technical cooperation programme allows us to apply policy, technology and programme expertise to develop and evaluate targeted approaches for transparent reductions and monitoring of nuclear warheads, fissile material and associated facilities for potential disarmament and non-proliferation initiatives. Technical experts conduct activities and share information to explore and address essential and difficult monitoring and verification challenges, working to integrate potential approaches for arms control monitoring and transparency.

C. Transparency and confidence-building measures

1. The P5 conference process

45. The United States is committed to engaging its P5 partners to advance all aspects of the Non-Proliferation Treaty. P5 activities are an essential means for laying the foundation for future agreements that could involve parties beyond the United States and the Russian Federation.

46. The P5 are pursuing regular dialogue on nuclear weapons-related issues to an extent unseen in prior years. China hosted the Fifth P5 Conference in Beijing in April 2014, following the 2009 London, 2011 Paris, 2012 Washington, and 2013 Geneva conferences; the last was chaired by the Russian Federation. At these conferences, the P5 have exchanged views on their nuclear doctrines, strategic stability and international security from their individual country perspectives to gain better understanding and build strategic trust.

47. In addition to these annual conferences, there have been frequent meetings among P5 policy makers and experts on these issues.

48. The United States participates in the P5 Working Group on a Glossary of Key Nuclear Terms, chaired by China. The group is making progress and expects to report to the 2015 Review Conference. This work is increasing mutual understanding, promoting greater transparency, and laying the groundwork for eventual nuclear negotiations that involve all five States.

49. As noted above, United States experts are also working with P5 counterparts to identify ways in which our unique experience can contribute to further strengthening the monitoring and verification regime of the Comprehensive Nuclear-Test-Ban Treaty.

50. The United States hosted France and the United Kingdom for a transparency visit to the Nevada National Security Site (the former Nevada Test Site) in 2013. The United States and the United Kingdom are also engaged in cooperative work developing verification procedures and technologies, on which our P5 partners have been briefed.

51. P5 engagement is a long-term investment in strengthening the Non-Proliferation Treaty, building trust, and creating a stronger foundation for the work required to achieve a world without nuclear weapons.

2. Other confidence building measures and agreements

52. The Direct Secure Communication System, also known as the "hotline", is an emergency and non-emergency secure communication system intended for use by the highest leadership of the United States and the Russian Federation (since 1963) and with China (since 1998). The system is maintained by each Government to ensure that leaders are prepared to manage the full range of national security crises we face internationally.

53. The United States Nuclear Risk Reduction Center provides a permanent, rapid, reliable and private means by which the United States may transmit notifications with its counterpart in the Russian Federation as required under certain existing, as well as possible future, arms control and confidence-building agreements. Use of the Center by the United States was expanded to include the network of the Organization for Security and Cooperation in Europe (OSCE) to exchange information and notifications required by arms control treaties and security-building agreements with more than 55 foreign Governments.

54. The Hague Code of Conduct against Ballistic Missile Proliferation was adopted at a conference of 93 countries held in November 2002 in The Hague. Under the Code's transparency and confidence-building measures, the United States provides pre-launch notification of launches of ballistic missiles and space launch vehicles (the Nuclear Risk Reduction Center assists in the notification process), as well as submits annual declarations of our space and ballistic missile policies.

55. The Accidents Measures Agreement (Agreement on Measures to Reduce the Risk of Outbreak of Nuclear War Between the United States of America and the Union of Soviet Socialist Republics) and the Agreement on Measures to Improve the USA-USSR Direct Communications Link (with Annex, Supplementing and Modifying the Memorandum of Understanding with Annex, of June 20, 1963) were signed and entered into force in 1971, inter alia, to provide for certain immediate or advance notification and to facilitate urgent communications via the "hotline".

56. The Ballistic Missile Launch Notification Agreement (Agreement on Notifications of Launches of Intercontinental Ballistic Missiles and Submarine Launched Ballistic Missiles) was signed in 1998. Pursuant to the Agreement, the United States and the Russian Federation agreed to provide each other with notifications, no less than 24 hours in advance, of dates, launch areas and impact sites for any test launch of an intercontinental ballistic missile or submarine launched ballistic missile. Notifications of launches under the New START Treaty are provided in accordance with the Agreement.

57. The United States-Russian Federation Presidential Declaration on Mutual Detargeting, issued in January 1994, announced the commitment of both sides to ensure that by May 1994, the United States and the Russian Federation no longer had intercontinental ballistic missiles and submarine launched ballistic missiles targeting each other. In the highly unlikely event of an accidental launch of a United States nuclear weapon, the weapon would land in the open ocean.

D. Other related issues

Resources devoted to treaty implementation, inspections and dismantlement

58. The United States expends considerable resources in fulfilment of its commitments under the many arms control and non-proliferation agreements and arrangements that it has implemented. Some examples follow:

- During calendar year 2013, in accordance with the provisions of the New START Treaty, the United States eliminated 24 B-52G nuclear-capable heavy bombers; converted two B-52H heavy bombers equipped for nuclear armaments to heavy bombers equipped for non-nuclear armaments, thereby removing them from treaty accountability; hosted 19 inspections; and conducted two exhibitions of United States weapons systems
- In addition, the United States eliminated 50 Peacekeeper intercontinental ballistic missile silos and began the conversion process to render inoperative some launchers of submarine launched ballistic missiles on United States submarines. The cost of those conversions exceeded $50 million for 2013, and the United States will spend roughly the same amount in 2014
- Transitioning the deployed nuclear force structure to meet the 2018 limits of the New START Treaty is expected to cost $300 million from fiscal years 2014 to 2018
- The United States makes the largest annual financial contribution to the Preparatory Commission for the Comprehensive Nuclear-Test-Ban Treaty Organizaton, paying more than 22 per cent of the Commission's annual budget:
  - From 1996 through 2013, the United States contributed over $347 million through its annual assessment
  - Since 2011, the United States has funded over $23 million of contributions-in-kind projects to the Provisional Technical Secretariat to accelerate the development of the verification regime and to improve its capabilities
  - The United States has contributed up to $25.5 million to rebuild the International Monitoring System hydroacoustic station In the Crozet Islands

59. The United States continues to make substantial investments in research and development to support future nuclear arms control agreements and requirements. In 2013, the United States funded over $110 million for research, development, test and evaluation for arms control and non-proliferation verification technology.

60. The United States is also committed to funding nuclear weapons dismantlement, and plans to dismantle all nuclear weapons retired prior to 2009 no later than the end of fiscal year 2022. The United States has spent over $250 million on weapons dismantlement in the past five years.

II. Reporting on national measures relating to non-proliferation

A. Safeguards

61. In 2009, the United States laid out a broad agenda to prevent the spread of nuclear weapons. In addition to nuclear disarmament and peaceful uses of nuclear energy, the agenda includes measures to strengthen the safeguards under the Non-Proliferation Treaty and IAEA safeguards as a basis for cooperation and confront the threat of nuclear terrorism.

62. The United States brought into force a safeguards agreement in 1980 (also known as the United States Voluntary Offer Agreement) and Additional Protocol in 2009, which contain the standard provisions for the implementation of safeguards and demonstrate our readiness to accept safeguards on civil nuclear activities such as those that non-nuclear-weapon States parties to the Non-Proliferation Treaty are required to accept.

63. Since 1980, the United States has made eligible for IAEA safeguards approximately 300 civil nuclear facilities, including power reactors, research reactors, commercial fuel fabrication plants, uranium enrichment plants and other types of facilities. This list of United States nuclear facilities that are eligible for IAEA inspections is routinely updated and provided to IAEA.

64. The United States has hosted and funded almost 800 IAEA inspections conducted at facilities on the list. Since 1994, this includes nearly 600 IAEA inspections at five United States facilities containing material removed permanently from weapons programmes and covered the costs for such inspections through the United States voluntary contribution to IAEA. This includes nearly 3 metric tons of surplus United States weapons plutonium under IAEA safeguards at the K-Area Materials Storage Facility at the Savannah River Site in South Carolina. The K-Area Materials Storage is the first plutonium storage facility in the world to implement remote monitoring, which enabled IAEA to expand its remote-monitoring techniques.

65. The United States has made available additional nuclear facilities under the Reporting Protocol to the Voluntary Offer Agreement, including three fuel fabrication facilities and one enrichment facility, as identified by IAEA under the Reporting Protocol in June 2013.

66. The United States has made regular declarations to IAEA under the United States Additional Protocol, consistent with our commitment to accept all provisions of the IAEA Model Additional Protocol, excluding only instances where its application would result in access by IAEA to activities with direct national security significance to the United States or to locations or information associated with such activities.

67. The United States reported 264 locations and activities in the initial declaration under the Additional Protocol in 2009. The United States has transmitted an updated annual declaration to IAEA each year since, with total locations and activities reported as follows: 307 in 2010; 372 in 2011; 331 in 2012; and 348 in 2013.

68. The United States hosted two complementary access visits by IAEA under the United States Additional Protocol in 2010. These were the first such visits

conducted in the territory of an nuclear-weapon State party to the Non-Proliferation Treaty.

69. The United States has also made regular reports to IAEA of the export of items enumerated in annex II to the United States Additional Protocol.

70. For decades, the United States has provided new tools, technology, experts and other resources to improve the effectiveness and efficiency of safeguards implementation through the United States Support Program to IAEA safeguards.

71. Since 2010, the United States has provided $166 million in extrabudgetary funding for IAEA safeguards work, above and beyond our assessed contribution for safeguards.This funding has supported initiation of 250 new tasks through the United States Support Program, promoting the strengthening of safeguards through direct and in-kind support to IAEA, including in the form of Junior Professional Officers, cost-free experts, safeguards equipment, workshops and training sessions. We have also developed and transferred numerous safeguards technologies to international partners, including IAEA.

72. Since 2010, the United States has provided over $26 million in extrabudgetary funds to upgrade the IAEA Safeguards Analytical Laboratories.

73. The United States has engaged more than 40 countries to improve safeguards infrastructure, to include best practices and training workshops on implementation of the Additional Protocol, strengthening State systems of accounting for and control of nuclear material, quality management, non-destructive assay safeguards equipment and "training the trainer". Through these and other workshops, the United States has trained over 2,500 foreign practitioners in safeguards since 2007.

74. Since 2010, the United States has held over 75 training courses and workshops on safeguards implementation in Africa, the Middle East, Central Asia, East Asia and South-East Asia. Recent examples include:

- A series of workshops in Myanmar in 2013 on implementation of the Additional Protocol to support Myanmar's pledge to ratify its Additional Protocol and update its Small Quantities Protocol in the near future
- An International Workshop on the Additional Protocol: Lessons Learned in South-East Asia, held in Jakarta in June 2013 and attended by representatives of safeguards regulatory authorities from South-East Asian nations, IAEA, the Asia-Pacific Safeguards Network and United States agencies

B. Export controls

75. Article III of the Non-Proliferation Treaty links safeguards and export controls. The United States maintains a rigorous and comprehensive system for nuclear export controls and has worked for years to strengthen international nuclear export control regimes and assist States in implementing regime requirements. Export controls are a tool to facilitate commerce by providing assurances tc suppliers that exported equipment is used for peaceful purposes.

76. Through Nuclear Suppliers Group bodies, including the Consultative Group and the Technical Experts Group, the United States continues to work to update Nuclear Suppliers Group lists and guidelines to conform to the evolving nature of proliferation and nuclear trade.

77. The United States updated United States nuclear material and dual-use export control regulations to conform to the latest Nuclear Suppliers Group guidance following the fundamental review of the Group control lists completed in 2012.

78. The United States also continues to support export control and related border security training and assistance programmes worldwide. Since 2010, we have:

- Overseen 200 information-sharing activities and training sessions involving 74 countries across Europe, Latin America, the Middle East, South Asia and South-East Asia; training topics included targeting and risk management, commodity identification, radiation detection and response, and border interdiction
- Donated $1.4 million of equipment to 15 countries to enhance their radiation detection and border protection capabilities
- Trained over 320 individuals in detection, inspection and interdiction of illicit transfers of nuclear and radiological materials

C. Nuclear security

79. The United States launched the Nuclear Security Summit process with a speech by President Obama in Prague in 2009. This Head of State-level forum first met in Washington in 2010, with subsequent summits in Seoul in 2012 and The Hague in 2014. President Obama has announced his intention to host a fourth summit in the United States in 2016. The summits have increased the security of nuclear material worldwide, reducing the chances that such material could fall into the hands of terrorists.

80. The summit process has resulted in dozens of national and multilateral commitments and tangible results that have enhanced nuclear security. Together we have:

- Established a global network of experts who work on nuclear security at senior levels in 53 Governments and multiple international organizations
- Removed and disposed of over 3 metric tons of vulnerable highly enriched uranium and plutonium
- Removed all highly enriched uranium in 11 countries plus Taiwan Province of China
- Upgraded physical security at 32 buildings storing weapons-usable fissile materials
- Installed radiation detection equipment at 250 international border crossings, airports and seaports to combat illicit trafficking in nuclear materials

81. The United States is the largest national contributor to the IAEA Nuclear Security Fund. Since 2010, the United States has provided approximately $38 million, which has supported:

- Cost-free experts
- Advisory service (missions and technical visits) to member States to establish the necessary infrastructure to protect nuclear and other radioactive materials from theft and diversion, protect nuclear installations and transport against sabotage and other malicious acts and combat illicit trafficking in nuclear and other radioactive materials

- Development of Nuclear Security Series guidance documents; dissemination of concepts and procedures for dealing effectively with nuclear and radiological threats through international conferences, training courses, seminars and workshops
- The IAEA Illicit Trafficking Database
- IAEA assistance to member States in the development of an infrastructure, including equipment, for the implementation of nuclear security at major public events, such as sports or political gatherings.

82. Since 1977, when we began efforts to minimize the use of highly enriched uranium through the Reduced Enrichment for Research and Test Reactors programme and subsequently, through the Global Threat Reduction Initiative, the United States has converted or verified the shutdown of 88 civilian research reactors and isotope production facilities, thereby eliminating the use of highly enriched uranium at these facilities.

83. The United States has also assisted 26 countries and Taiwan Province of China with the elimination of all highly enriched uranium on their territories, and removed or confirmed disposition of more than 5 metric tons of vulnerable highly enriched uranium and plutonium, enough for more than 200 nuclear weapons.

84. Working with our partners, the United States downblended 16 metric tons of non-weapons highly enriched uranium and reduced the number of buildings and sites with weapons-useable nuclear materials.

85. Working with our partners, the United States has jointly developed and implemented techniques to secure over 200 buildings containing weapons-usable nuclear materials and secured more than 1,700 buildings containing vulnerable, high-activity radiological sources in more than 100 countries.

86. Working around the world, the United States has recovered nearly 55,000 radiological sources containing millions of curies of activity, enough for hundreds of thousands of dirty bombs.

87. In partnership with IAEA, the United States has worked on a pilot project in Latin America to identify and reduce the number of unwanted, unused radiological sources that could be used by terrorists by returning them to their country of origin.

88. The United States has deployed fixed and mobile radiation detection systems at international border crossings, airports and major seaports, bringing the total number of installed sites around the world to over 500.

89. The United States has cooperated to procure over 300 vehicles and railcars for secure transportation of nuclear material in the United States and developed an automated transportation security system to ensure security of shipments of nuclear material.

90. The United States and our partners have jointly designed, completed or upgraded several training centres to expand nuclear security training capabilities in partner countries.

91. In 2013 the United States hosted an IAEA International Physical Protection Advisory Service mission to the United States Nuclear Regulatory Commission and to the highly enriched uranium reactor at the National Institute of Standards and Technology Center for Neutron Research.

92. The United States has participated in 50 IAEA International Physical Protection Advisory Service missions in other countries since 1996 and helped revise the Service Guidelines to be consistent with current international standards.

93. To ensure that physical protection measures over nuclear materials for which the United States has obligations are comparable to the recommendations in IAEA publication INFCIRC/225, the United States has conducted 183 bilateral assessment visits to 42 countries since 1974. The United States led the latest revision to nuclear security recommendations in INFCIRC/225 and is leading the development of implementing guides that support it.

94. Since 2009, the United States has engaged bilaterally with 14 countries and the European Commission on technical nuclear forensics best practices. Most notably, the United States, Japan and France have made significant contributions to the area of uranium age dating, which is a key nuclear forensics measurement. The United States has also cooperated extensively with IAEA on training and development of implementing guides on nuclear forensics methodologies.

D. Nuclear-weapon-free zones

95. In May 2011, the United States submitted the protocols to the African Nuclear Weapon Free Zone and South Pacific Nuclear- Free Zone treaties to the United States Senate for advice and consent to ratification. The United States completed consultations between the P5 and the States parties to the Central Asia Nuclear-Weapon-Free Zone Treaty to prepare for signature of the Protocol to the Treaty. The United States continues to participate in consultations between the P5 and the Association of Southeast Asian Nations (ASEAN) to prepare for signature of the revised Protocol to the Southeast Asia Nuclear-Weapon-Free Zone Treaty.

96. In accordance with the action plan of the 2010 Review Conference, the United States continues to support engagement of regional States on a conference on the establishment of a Middle East zone free of weapons of mass destruction and their means of delivery so that it can be held as soon as the regional States reach consensus on arrangements.

E. Compliance and other related issues/concerns

97. In support of diplomatic efforts to restore compliance and respond to compliance challenges within the framework of the Non-Proliferation Treaty, IAEA and the Charter of the United Nations:

- The United States is working with E3/EU+3 partners to address the international community's concerns regarding the nuclear programme of the Islamic Republic of Iran and to return Iran to full compliance with its obligations under the Non-Proliferation Treaty and other international nuclear obligations
- The United States continues to promote implementation of Security Council resolutions related to the Islamic Republic of Iran
- The United States is supporting the efforts of IAEA to verify the exclusively peaceful nature of Iran's nuclear programme
- The United States seeks authentic and credible negotiations to bring the Democratic People's Republic of Korea into compliance with its international obligations and commitments through irreversible steps to achieve verifiable denuclearization, including abandonment of all its nuclear weapons and existing nuclear programmes, and its return, at an early date, to the safeguards under the Non-Proliferation Treaty and IAEA

- The United States is leading efforts to enhance the sanctions regime on the Democratic People's Republic of Korea, mostly recently through the adoption of Security Council resolutions 2087 (2013) and 2094 (2013) and continued concerted efforts to achieve robust domestic and international implementation of national and United Nations sanctions to impede the proliferation activities of the Democratic People's Republic of Korea and curtail its ability to sustain and advance its nuclear and ballistic missile programmes
- The United States continues to hold the the Syrian Arab Republic accountable for non-compliance with its IAEA safeguards agreement and calls on Syria to take the necessary steps to meet its non-proliferation obligations and cooperate fully with IAEA requests for access to all relevant locations, materials and persons

F. Other contributions to nuclear weapons non-proliferation

98. The United States continues to support the work of the Committee established pursuant to Security Council esolution 1540 (2004) in the area of nuclear non-proliferation. For example:

- The United States provided the 1540 Committee with a report on steps taken by the United States to implement the resolution, including measures related to nuclear non-proliferation
- The United States supported participation of the 1540 Committee in nuclear non-proliferation activities, such as the IAEA Nuclear Security Summit and the Second ASEAN Regional Forum Confidence Building Measures Seminar on implementation of resolution 1540 (2004), which focused on nuclear security issues
- The United States is leading development of other major programmes to address nuclear security, including the Global Initiative to Combat Nuclear Terrorism, to strengthen capacity to prevent, detect and respond to nuclear terrorism, and the Preventing Nuclear Smuggling Program to enhance legal and regulatory frameworks to counter illicit trafficking of radioactive and nuclear materials
- The United States is supporting efforts by States parties to the Non-Proliferation Treaty to address the prospect of withdrawal by a State party, including through consultations on recommendations for actions parties could take consistent with the provisions of the Treaty

III. Reporting on national measures relating to the peaceful uses of nuclear energy

A. Promoting peaceful uses

99. The United States is dedicated to international cooperation on the uses of nuclear energy for peaceful purposes, in accordance with article IV of the Non-Proliferation Treaty. The United States meets its commitment in a variety of ways, including through nuclear trade and technical assistance through IAEA and other means.

100. Since 2010, the United States has made over $2.5 billion worth of nuclear equipment, materials and technology available to States involved in nuclear power

programmes in accordance with agreements for cooperation establishing the highest levels of non-proliferation, safety and security standards.

101. The United States supports the safe implementation of peaceful nuclear technology abroad through licensing transfers of nuclear material, equipment and assistance.

102. Since 2010, the United States has issued 330 export licences for nuclear material, equipment, technology and transfers of assistance benefiting at least 35 countries and the European Union.

103. To facilitate peaceful nuclear trade and to improve security, the United States has worked to streamline the licensing process for nuclear material, equipment, technology and assistance transfers in order to facilitate peaceful nuclear trade and to improve security.

104. The United States has in place 23 bilateral agreements pursuant to section 123 of the United States Atomic Energy Act of 1954 that provide for cooperation with 48 partner Governments (including the 28 States members of the European Atomic Energy Community, EURATOM), IAEA and the authorities on Taiwan Province of China. We are pursuing bilateral agreements with additional partners.

105. In addition, to supply low-enriched uranium for the continuing operation of research reactors, the United States has, since 2010, entered into IAEA Project and Supply Agreements with Chile, Mexico and Jamaica, and another such agreement has recently been approved by the Board of Governors with Peru.

106. To support the safe and secure use of peaceful nuclear applications, the United States Department of Energy and Nuclear Regulatory Commission have bilateral cooperative arrangements in place with over 40 States. More partnerships are being formed.

107. In 2011, the United States announced the availability of nuclear fuel from the American Assured Fuel Supply, a reserve of approximately 230 tons of low-enriched uranium, which is derived from downblending 17.4 metric tons of excess highly enriched uranium. The fuel is held in reserve to deal with disruptions in nuclear fuel supply.

108. The United States contributed almost $50 million to IAEA to support establishment of a fuel bank of low-enriched uranium to assure member States of a reliable supply of fuel for peaceful nuclear reactors.

109. Through IAEA, the International Framework for Nuclear Energy Cooperation and bilaterally, the United States supports the efforts of countries considering nuclear power to build the national infrastructure needed to pursue the highest standards for safety, security and non-proliferation.

B. Technical assistance through IAEA to its member States

110. Since 2010, the United States has provided approximately $148 million to IAEA to support technical cooperation and promotional programmes. This figure includes:

- $86 million to support the IAEA Technical Cooperation Fund, or about 25 per cent of the total. Technical cooperation projects are having a positive humanitarian impact in the developing countries of Africa, Latin America, Asia and Eastern Europe in the fields of medicine, agriculture and food

security, isotope hydrology, and nuclear energy infrastructure and sustainability

- $21 million to support IAEA technical cooperation above and beyond projects funded through the Technical Cooperation Fund. This covers, for example, in-kind and technical support towards training, technical support, fellowships and cost-free experts
- $41 million allocated for the IAEA Peaceful Uses Initiative, and the United States is on track to meet our full $50 million commitment by 2015

111. More than 120 IAEA member States have benefited from United States and international support to the Peaceful Uses Initiative, to include:

- Establishment of the Ocean Acidification International Coordination Centre at the IAEA Environment Laboratories in Monaco to promote global actions against ocean acidification
- Design of a large-scale water resource management project to respond to sustained drought and widespread starvation and malnutrition in the Sahel region of Africa
- Development of a sustainable zone free of the tsetse fly in the Niayes region of Senegal to relieve the burden of trypanosomiasis and increase food and agricultural productivity
- Enhancement of laboratory capacity in Latin America to ensure food safety and reduce the threat that fruit flies pose to agriculture resources
- Assessment and strengthening of national capabilities to detect and treat cancer in nearly 30 countries
- Advancement of education and training in nuclear medicine, as well as application of nuclear techniques to improve the treatment of cardiac and cancer patients
- Study of the possible impact of radioactive releases following the Fukushima Daiichi nuclear power plant accident

112. The United States is contributing funding and technical expertise in the renovation of the IAEA Nuclear Sciences and Applications Laboratories in Seibersdorf, Austria.

113. The United States also participates extensively in IAEA efforts to provide training in nuclear applications, including by sending 1,300 experts to participate in IAEA technical meetings, workshops and conferences in 2013.

C. Nuclear safety and civil nuclear liability

114. Through the Nuclear Regulatory Commission, the United States has concluded arrangements for technical cooperation on nuclear safety matters with 47 countries, EURATOM and Taiwan Province of China.

115. The United States has participated extensively on nuclear safety issues within the IAEA and other international venues.

116. The United States has participated extensively in seeking implementation of the IAEA Action Plan for Nuclear Safety and in the Efficiency and Transparency Working Group of the Convention on Nuclear Safety.

117. The United States has actively promoted the Convention on Supplementary Compensation for Nuclear Damage to be a global nuclear liability regime and urged other countries to join.

118. To promote nuclear safety in over 60 member States and at the regional level across the globe, the United States has made regular extrabudgetary contributions to IAEA for nuclear safety, including for the post-Fukushima Nuclear Safety Action Plan. The United States contributed $4 million in 2013, and since 2010 has contributed $12.2 million.

119. The United States has contributed funding and personnel to the Asian Nuclear Safety Network, which assists countries in the area planning to have domestic civil nuclear power programmes to build infrastructure.

D. Other related issues

Nuclear non-proliferation and disarmament outreach and education

120. The United States has long supported the role of education and training programmes to maintain a healthy global nuclear non-proliferation regime. Drawing on our cadre of non-proliferation and disarmament experts, we are working to promote public awareness, develop educational tools and expand career opportunities for the next generation of non-proliferation and disarmament experts. The United States Government is:

- Working with the Association for Diplomatic Studies and Training to record oral histories of senior arms control and non-proliferation officials and leaders in the field for public access through the Library of Congress
- Engaging with the United Nations Association to bring experts to classrooms to guide simulations of current non-proliferation and disarmament scenarios
- Supporting the annual Generation Prague Conference, which brings together young professionals and experienced practitioners from around the world to exchange perspectives on issues concerning them and their home countries
- Making use of virtual and in-house internships and programmes that allow students from high school and upwards to work directly with policy makers and scientists for up to two years and demonstrating the importance of science, technology, engineering and math to the field of non-proliferation and arms control
- Hosting and attending hundreds of outreach events that demonstrate the commitment of the United States to educate United States citizens and citizens of the world about the threats posed by weapons of mass destruction and the opportunities to promote international peace and security

121. The United States has assisted over 30 international universities in incorporating nuclear security into graduate and undergraduate nuclear engineering curriculums and trained over 4,000 students from more than 120 countries through IAEA physical protection training programmes.

122. Through the Next Generation Safeguards Initiative Human Capital Development programme, the United States has:

- Developed non-proliferation university curriculums at over a dozen universities

- Offered National Laboratory internship opportunities for over 300 students from more than 100 national and international universities in the last five years
- Spearheaded postgraduate professional development opportunities such as participation by United States young professionals in the World Nuclear University Summer Institute and fellowships such as the Nuclear Non-proliferation International Safeguards Graduate Fellowship
- Published a nuclear safeguards textbook available for free download
- Developed and sponsored six annual short courses on non-proliferation and arms control topics.